

AMENDMENTS TO THE CLAIMS

The following listing of the claims replaces all prior versions and listings of claims in this application.

Listing of the Claims

1. (Previously presented) A system for transducing and stimulating perineal musculature and/or nerves, in humans, comprising:

a single, separate unit in the form of a portable, substantially cylindrical, combination probe, which integrates a transceiver, antenna, programmable microprocessor, and power source; has a substantially smooth and substantially sealed outer surface; is adapted to ergonomically insert into, be removed from, and be entirely contained within a human's own vagina; and is provided with means for sensing and transducing a vaginal condition and substantially annular means for stimulating perineal musculature and/or nerves, wherein said substantially annular means is substantially flush with the outer surface of the probe;

wherein said combination probe is provided with 2-way communication means for transmitting information that is transduced and for receiving control and programming signals wirelessly and in real time; and

a single, separate unit in the form of a combination controller and transceiver that is provided with means for sending signals to said probe and for

receiving signals therefrom wirelessly and in real time; said signals to said probe comprising instructions to start, stop, and/or alter the level of stimulation;

wherein a wireless signal feedback loop is provided within said probe and between said controller and said probe in real time during operation of the system and which may be an interactive or closed signal feedback wireless loop.

2. (Canceled)
3. (Canceled)
4. (Canceled)
5. (Canceled)
6. (Canceled)
7. (Canceled)
8. (Canceled)
9. (Canceled)
10. (Canceled)
11. (Canceled)
12. (Previously presented) A system according to claim 1, wherein said controller and/or said probe are/is provided with means to transmit signals to and/or receive signals from an external device, network, and/or database wirelessly and in real time.
13. (Previously presented) A system according to claim 1, where said combination controller and transceiver is a hand-held unit.
14. (Canceled)
15. (Canceled)

16. (Canceled)
17. (Canceled)
18. (Canceled)
19. (Canceled)
20. (Previously presented) A system according to claim 1, wherein said probe is adapted to be programmed to start and/or stop sensing and/or stimulating after a predetermined period of time.
21. (Previously presented) A system according to claim 1, wherein said probe is adapted to be programmed to change its stimulating activity in response to sensed perineal muscle activity.
22. (Previously presented) A system according to claim 1, wherein said probe is adapted to be programmed to automatically change its stimulating activity over time.
23. (Previously presented) A system according to claim 22, wherein said probe is adapted to be programmed to stimulate perineal musculature and/or nerves in cycles of alternating stimulation and rest periods.
24. (Previously presented) A system according to claim 1, wherein said probe and/or said controller are/is provided with memory.
25. (Withdrawn) A system according to claim 1, wherein said probe is adapted to deliver medication.
26. (Previously presented) A system according to claim 1, wherein an end of said probe is rounded.

27. (Previously presented) A system according to claim 1, wherein said probe is less than one inch in diameter and less than four inches long.

28. (Previously presented) A system according to claim 1, wherein said probe is provided with means for facilitating removal from a vagina.

29. (Previously presented) A system according to claim 1, further comprising a tester for the combination probe unit.

30. (Withdrawn) A package comprising a system according to claim 29 and a holder adapted to hold said combination probe unit, said combination controller unit, and said tester.

31. (Previously presented) A system according to claim 1, wherein said system is adapted to permit a human user to operate the combination controller and transceiver while the said probe is in the human user's vagina.

32. (Previously presented) A system for stimulating pelvic muscles and/or nerves in a mammal, comprising:

a portable probe unit, said probe unit comprising a substantially cylindrical body having a substantially smooth and substantially sealed outer surface with a rounded end and so dimensioned as to permit comfortable and repeated insertion into, removal from, and containment entirely within a mammal's vagina; substantially annular means substantially flush with the outer surface of the body of the probe unit and adapted to deliver electrical pulses; a programmable microprocessor; memory; a battery; and two-way communication means with antenna and adapted to both transmit signals to a controller unit and receive signals from said controller unit wirelessly and in real time; and

a controller unit comprising two-way communication means adapted to both receive signals from said probe unit and transmit signals to said probe unit wirelessly and in real time, wherein said signals to said probe unit comprise instructions to start, stop, and/or alter the activity of the annular means of the probe unit.

33. (Previously presented) A system according to claim 32, said probe unit and/or said controller unit further comprising means for transmitting signals to and/or receiving signals from an external device, network, and/or database, wirelessly and in real time.

34. (Previously presented) A system according to claim 32, wherein said controller unit is provided with memory.

35. (Previously presented) A system according to claim 32, wherein said probe unit is adapted to be programmed to start and/or stop delivery of electrical pulses after a predetermined period of time.

36. (Previously presented) A system according to claim 32, wherein said probe unit is adapted to be programmed to deliver cycles of alternating electrical pulses and rest periods.

37. (Previously presented) A system according to claim 32, wherein said probe unit is adapted to be programmed to deliver electrical pulses of varying strengths.

38. (Previously presented) A system according to claim 32, said probe unit further comprising means for sensing a vaginal condition.

39. (Previously presented) A system according to claim 38, wherein said probe unit is adapted to be programmed to adjust its delivery of electrical pulses in response to a sensed vaginal condition.

40. (Withdrawn) A system according to claim 32, wherein said probe unit is adapted to deliver medication.

41. (Previously presented) A system according to claim 32, said probe unit further comprising means for facilitating removal of the probe from a mammal's vagina.

42. (Previously presented) A system according to claim 32, wherein said probe unit is less than one inch in diameter and less than four inches in length.

43. (Previously presented) A system according to claim 32, wherein said probe unit and said controller unit are adapted to be held together, and wherein separation of said probe unit and said controller unit causes said probe unit to turn on.

44. (Previously presented) A system according to claim 32, further comprising a tester for said probe unit.

45. (Previously presented) A system according to claim 44, further comprising a holder adapted to hold said probe unit, said controller unit, and said tester.

46. (Previously presented) A system according to claim 32, wherein said controller unit is adapted to be hand-held.

47. (Previously presented) A system according to claim 32, wherein said controller unit is adapted to permit manual operation and control of said probe unit.

48. (Previously presented) A system for sensing and transducing vaginal conditions, comprising:

a portable probe unit comprising a body having a substantially smooth and substantially sealed outer surface and adapted to be comfortably, temporarily, and repeatedly inserted into, contained entirely within, and removed from a user's vagina; means for sensing at least one vaginal condition of pH, secretion viscosity, the presence of a pathogen, the presence of atypical cells, and activity of pelvic muscles and/or nerves; means for affecting a vaginal condition; a programmable microprocessor; a power source; an antenna; and two-way communication means adapted to transmit signals to a controller unit and receive signals from a controller unit, wirelessly and in real time;

said controller unit comprising two-way communication means adapted to receive signals from said probe unit and transmit signals to said probe unit, wirelessly and in real time, said signals to said probe unit comprising instructions to alter activity of the probe;

wherein a wireless signal feedback loop is provided within said probe unit and between said probe unit and said controller unit in real time during operation of the system.

49. (Withdrawn) A system according to claim 48, wherein said probe unit is adapted to sense temperature, a physiological marker of a user's fertility cycle, and/or a metabolic abnormality of the user.

50. (Previously presented) A system according to claim 48, wherein said probe unit's said means for sensing a vaginal condition and/or said means for affecting a vaginal condition comprises at least one substantially annular electrode.

51. (Withdrawn) A system according to claim 48, wherein said probe unit is adapted to sample cervical fluid.

52. (Withdrawn) A system according to claim 48, wherein said means for affecting a vaginal condition comprises means adapted to deliver medication.

53. (Previously presented) A system according to claim 48, wherein said means for affecting a vaginal condition comprises means for stimulating pelvic muscles and/or nerves.

54. (Previously presented) A system according to claim 48, wherein said system is adapted to be programmed to adjust its affecting function in response to a sensed vaginal condition.

55. (Previously presented) A system according to claim 48, wherein said system is adapted to be programmed to start, stop, and/or alter a function after a predetermined period of time.

56. (Previously presented) A system according to claim 48, wherein said probe unit and/or said controller unit further comprises memory.

57. (Previously presented) A system according to claim 48, wherein said probe unit and/or said controller unit further comprises means adapted to transmit signals to and/or receive signals from an external device, network, and/or database, wirelessly and in real time.

58. (Previously presented) A system according to claim 48, wherein the body of said probe unit is substantially cylindrical and has a rounded end.

59. (Previously presented) A system according to claim 58, wherein said body is less than one inch in diameter and less than four inches in length.

60. (Previously presented)) A system according to claim 48, wherein said probe unit is less than four inches in its greatest dimension.

61. (Previously presented)) A system according to claim 48, said probe unit further comprising means for facilitating removal of the probe from a user's vagina.

62. (Previously presented)) A system according to claim 48, wherein said controller unit is adapted to be hand-held.

63. (Previously presented) A system according to claim 48, wherein said controller unit is adapted to be operated manually.

64. (Withdrawn) A method for transducing or affecting a vaginal condition in a mammal, said method comprising the steps of:

(a) activating a portable probe unit comprising a two-way transceiver with antenna, a programmable microprocessor, and a power source;

(b) inserting the probe unit substantially entirely into the vagina of a mammal;

(c) transmitting a signal wirelessly from a control unit outside the vagina to said probe unit and, in real time, transmitting a signal wirelessly from said probe unit to said control unit;

(d) said probe unit performing at least one activity of sensing a vaginal condition, delivering a signal or medication to the vagina, and stimulating pelvic muscles and/or nerves;

(e) said probe unit ceasing said sensing, delivering, and/or stimulating activity;

(f) removing said probe unit from the vagina; and

(g) said probe unit and/or said control unit retaining memory of said sensing, delivering, and/or stimulating activity.

65. (Withdrawn) A method according to claim 64, wherein said control unit is adapted to be hand-held.

66. (Withdrawn) A method according to claim 64, wherein said vaginal condition is temperature, pH, secretion viscosity, the presence of a pathogen, the presence of atypical cells, a physiological marker of the mammal's fertility cycle, a metabolic abnormality of the mammal, or pelvic muscle contractions.

67. (Withdrawn) A method according to claim 64, wherein said probe unit automatically ceases its sensing, delivering, and/or stimulating activity after a predetermined period of time.

68. (Withdrawn) A method according to claim 64, wherein said probe unit stimulates pelvic muscles and/or nerves in cycles of alternating stimulation and rest periods.

69. (Withdrawn) A method according to claim 64, further comprising a step of said probe unit sampling cervical fluid.

70. (Withdrawn) A method according to claim 64, further comprising a step of said control unit wirelessly transmitting a signal to said probe unit to initiate the step of activating the probe unit.

71. (Withdrawn) A method according to claim 64, further comprising a step of said control unit wirelessly transmitting a signal to said probe unit to increase, decrease, stop, and/or start the probe's sensing, delivering, and/or stimulating activity.

72. (Withdrawn) A method according to claim 64, further comprising a step of said probe unit and/or said control unit transmitting a signal to and/or receiving a signal from an external device, network, or database, wirelessly and in real time.